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Nobilissimi cujusdam Angli Demonstratio Synchronismi Vibrationum peractarum in *Cycloide*; nunc juris publici facta ex occasione quam suppeditavit Rev. P. Pardies, de eodem Argumento Demonstrationem exhibens ad calcem libelli nuper ab ipso Gallicè editi de *Statica*, inferiùs à nobis commemorandi.

V. Fig. 1. \int Int $ab, bc, cd, de, ef, \&c.$ omnes invicem æquales; $\& b_1, c_2, d_3, e_4, f_5, \&c.$ æqualiter crescant ut 1, 3, 5, 7, 9, $\&c.$

Dico, in hac Linea Græve quodlibet, cadens ex quovis ejus puncto, attingere fundum in eodem temporis spatio, quo eum attingeret si caderet ex quovis ejusdem puncto alio.

Nam si ponas $a = ab = bc = cd \&c.$ $\& b = b_1$, $\& x$ pro quolibet numero alterutrorum; tunc, si xa ponatur pro af , xxb repræsentet oportet $f\delta$, proindeque tempus descensus necessario erit $\frac{xxb}{xxa}$ seu $\frac{b}{a}$; atque idem in omnibus obtinet casibus. Ergo, $\&c.$

Dico insuper, Curvam hanc esse Cycloidem. quod demonstratu est facile ex Constructione, atque ex eo quod jam innuo; nempe, Curvam hanc $abcdefz$ æquare duplum ultimæ rectarum, h. e. $2z\omega$, $\& a\omega$ æqualem esse semi-circumferentiæ Circuli cujus $z\omega$ est diameter; ac universim Triangulum $\gamma\delta\pi$ repræsentare rectam $z\omega$; $\&$ Quadratum $\gamma\delta\pi\epsilon$, Curvam $abcdefz$, $\&$ Quadrantem $\gamma\delta\epsilon$ repræsentare rectam $a\omega$: ac partes unius, partes alterius respectivè. Utz si $\gamma\delta\pi$ repræsentat $f\delta$, tunc $\gamma\delta\epsilon$ repræsentat $a\delta$, $\& \gamma\delta\pi\epsilon$ repræsentat af . At non vacat fusiùs hæc proseguì.

Dico deniq;, Globulum suspensum è funiculo (justæ longitudinis) $\&$ intra duas Cycloides vibrantem, moveri in Cycloide. Quare Vibrationes ejusmodi sunt synchronæ. quod erat $\&c.$

